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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,148	02/14/2002	Sivaramakrishna Veerepalli	020175	8658

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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
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EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,148

Applicant(s)

Veerepalli et al.

Examiner

Rafael Perez-Gutierrez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8-13,19,24,25,34-37 and 44-49 is/are rejected.
- 7) ☒ Claim(s) 2-7,14-18,20-23,26-33 and 38-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on February 14, 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference number not mentioned in the description: On **figure 13B**, reference number **1326** is not mentioned in the description.
2. The drawings are objected to because of the following minor informality: On **figure 14 step 1406**, replace “PREVIOS” with --PREVIOUS--.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office Action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended”. If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office Action. If a response to the

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present Office Action fails to include proper drawing corrections, corrected drawings or arguments therefor, the response can be held **NON-RESPONSIVE** and/or the application could be **ABANDONED** since the objections/corrections to the drawings are no longer held in abeyance.

Claim Objections

4. **Claims 6, 7, 18, 20, 22, 30, 31, 42, and 43** are objected to because of the following informalities:

a) On **line 2 of claims 6, 7, 30, and 31** and on **line 3 of claims 18, 20, 42, 43**, replace “the” with --an-- before “ICMP”; and

b) On **line 3 of claim 22**, delete “the” after “by”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless -- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by **Warrier et al. (U.S Patent # 6,707,809 B1)**.

Consider **claim 11**, Warrier et al. clearly show and disclose a home agent 18, 36 for use in a wireless communication system (figure 2) supporting mobile IP comprising:

a plurality of mobility binding records 131 (figure 5), wherein each mobility binding record 131 comprises:

a home address provided by the home agent 18, 36 for use by a corresponding mobile node 10 (figures 2 and 5, column 2 lines 53-58, column 3 line 65 - column 4 line 6, column 4 lines 20-27 and 46-53, and column 6 lines 43-47);

a care-of address received from the corresponding mobile node 10 when the corresponding node sent a registration request message 52, 54, 56 (figures 2, 3, and 5, column 2 lines 53-58, column 3 lines 50-56, and column 6 lines 22-38);

a lifetime value defining the term of validity for the home address (column 6 lines 38-42); and

a lifetime (inactivity) timer for the corresponding mobile node 10 to monitor an activity status of the corresponding mobile node 10, wherein the home agent is configured to create the lifetime (inactivity) timer for the corresponding mobile node 10 when the mobility binding 131 is created for the corresponding mobile node (figures 2, 3, and 5 and column 6 line 38 - column 8 line 49).

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1, 8-10, 12, 13, 19, 24, 25, 34-37, and 44-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Warrier et al. (U.S Patent # 6,707,809 B1)** in view of **Soininen et**

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al. (WO 01/05171 A1).

Consider **claims 1, 8-10, 25, 34-37 and 44-48**, Warrier et al. clearly show and disclose in a wireless communication system supporting mobile IP (figure 2), a method comprising:

sending a registration request message 52, 54, 56 to a home agent 18, 36 wherein the registration request message 52, 54, 56 includes a care-of address (figures 2 and 3, column 2 lines 53-58, column 3 lines 50-56, and column 6 lines 22-38);

creating a mobility binding record 131 (figure 5);

providing a home address for a mobile node 10 (figure 2, column 2 lines 53-58, column 3 line 65 - column 4 line 6, column 4 lines 20-27 and 46-53, and column 6 lines 43-47);

associating the home address with the care-of address (figures 3 and 5, column 2 lines 53-58, column 3 line 65 - column 4 line 6, column 4 lines 20-27 and 46-53, column 6 lines 43-47, and column 8 lines 25-36);

providing a lifetime value defining the term of validity for the home address (column 6 lines 38-42); and

providing a lifetime timer (inactivity timer) for the mobile node 10 at the home agent 18, 36 (figure 5, column 6 lines 38-54, and column 7 lines 7-14); and

deleting idle sessions through the use of the lifetime timer (inactivity timer) (figure 3 and column 7 lines 7-14) .

However, Warrier et al. fail to specifically disclose

monitoring a condition (e.g., availability of IP addresses (claims 10 and 48)) of the home agent 18, 36; and

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starting a reclaiming resources process (e.g., memory or processing resources (claims 35 and 36) at the home agent 18, 36 when the condition satisfies an overload condition defined by UPPER_OL data (claims 8 and 44-47) and until is lower than LOWER_OL data (claims 9 and 44-47).

Soininen et al. clearly show and disclose a method in a wireless communication system supporting mobile IP, comprising:

monitoring a load condition (e.g., availability of IP addresses) of a home agent (page 5 lines 26-34 and page 14 lines 23-32); and

starting a reclaiming resources process at the home agent (by deleting unnecessary PDP contexts) when the load condition satisfied an overload condition inherently defined by an upper threshold (UPPER_OL data) and until is lower than a lower threshold (LOWER_OL data) (page 5 lines 26-34, page 12 line 34 - page 13 line 25, and page 14 lines 23-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the step of reclaiming resources when the home agent is overloaded as taught by Soininen et al. in the method of Warriar et al. for the purpose of optimal performance.

Consider **claims 12, 13, 19, 24, and 49**, and **as applied to claim 11 above**, Warriar et al. clearly show and disclose the claimed invention except that the home agent 18, 36 comprises a means for monitoring a resource condition (e.g., availability of IP addresses (claim 24)) that represents a current capacity of a home agent resource (claim 12) and is configured to enter a resource reclaiming process, via means for reclaiming, when the resource condition satisfied and

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overload condition (claim 13) comprising an UPPER_OL data defining an upper limit of said overload condition (claim 19).

Soininen et al. clearly show and disclose a home agent in a wireless communication system supporting mobile IP, comprising a load (resource) condition (e.g., availability of IP addresses) of the home agent (page 5 lines 26-34 and page 14 lines 23-32) and wherein the home agent is configured to enter a reclaiming resources process (by deleting unnecessary PDP contexts) when the load (resource) condition satisfied an overload condition inherently defined by an upper threshold (UPPER_OL data) (page 5 lines 26-34, page 12 line 34 - page 13 line 25, and page 14 lines 23-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to configure the home agent to reclaim resources when the home agent is overloaded as taught by Soininen et al. in the home agent of Warriier et al. for the purpose of optimal performance.

Allowable Subject Matter

8. **Claims 2-7, 14-18, 20-23, 26-33, and 38-43** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as well as any corrections to the objections made above.

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Conclusion

9. Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

220 S. 20th St.
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.



Rafael Perez-Gutierrez

R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

December 1, 2004